

1,435,618.

Fig. 1.

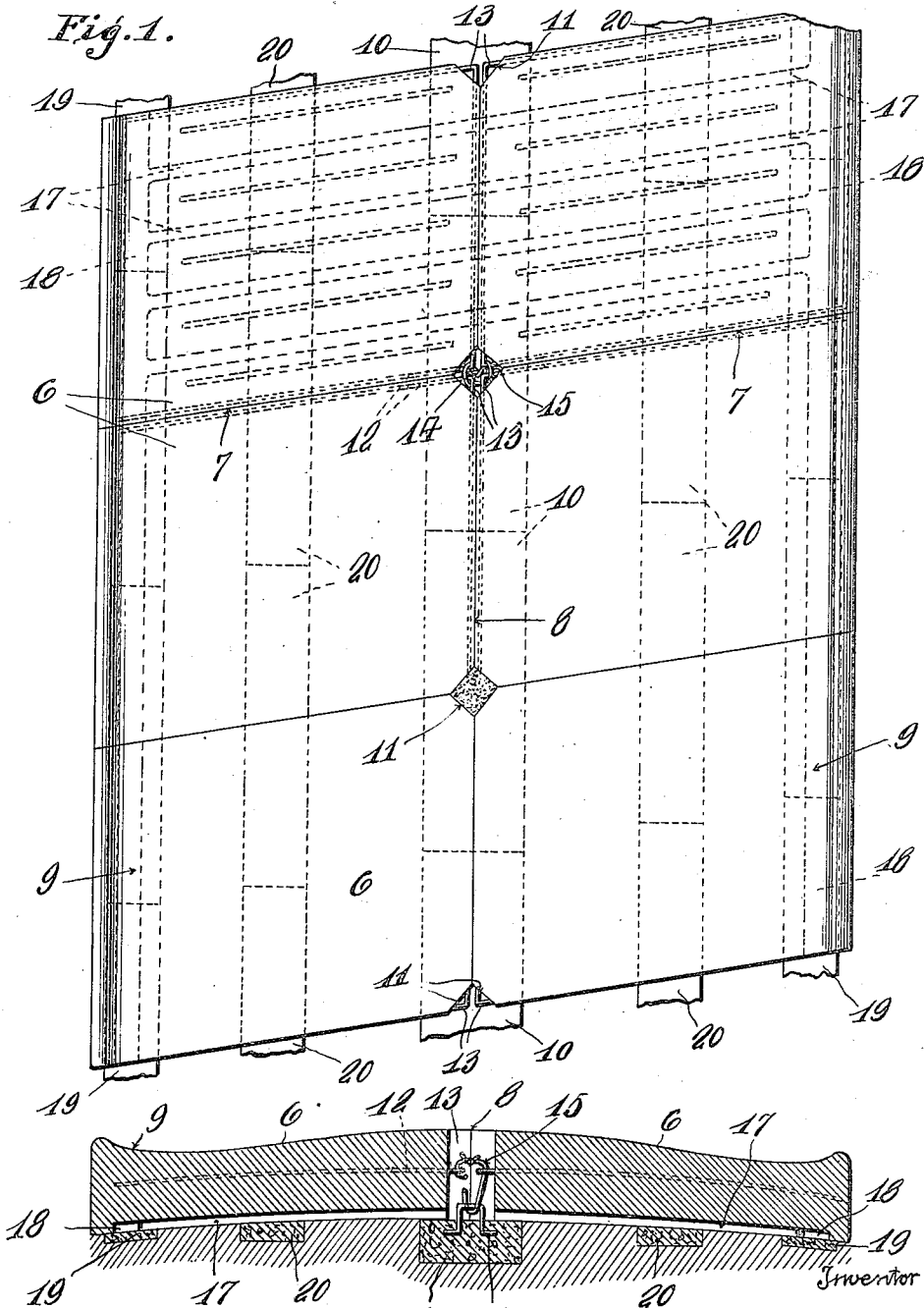


Fig. 2.

Alfred T. Newell

Geo. E. Jew

Attorney

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UNITED STATES PATENT OFFICE.

ALFRED T. NEWELL, OF BIRMINGHAM, ALABAMA.

ROADWAY.

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To all whom it may concern:

Be it known that I, ALFRED T. NEWELL, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Roadways, of which the following is a specification.

This invention is an improvement on or modification of the roadway shown and described in my pending applications Serial Numbers 472379 and 473698, the present invention being directed to certain novelties of construction with respect to the supports for the slabs which form the roadway, and with respect to the formation of drains for relieving the road bed of water.

In cuts, especially or in springy ground there is a tendency for water to seep up through the bed and collect under the concrete surface. My invention is intended to take care of this, and to maintain a dry road bed under all conditions. When the water under concrete freezes it will lift and crack the paving, but a dry bed will not freeze, and by means of this invention a dry bed will be maintained under all conditions. The present invention further provides a support at the middle of the road for the concrete slabs which meet at the middle line, said support consisting of elongated concrete blocks on which the inner ends of the slabs rest when they are laid in position.

One form of the invention is illustrated in the accompanying drawings in which Fig. 1 is a top plan of the roadway. Fig. 2 is a section across the same.

The surface of the road is made of pre-formed concrete slabs, in substantially the same manner as indicated in my pending applications above referred to, these slabs being cast at a central plant and transported to the place where they are laid. The advantages attending this method of construction are described in said applications, and need not be repeated here. In the drawings the slabs are indicated at 6 and are substantially flat on the bottom, the top being curved or cambered to form the crown of the road. Two rows of these slabs are laid adjoining, and they preferably meet on oblique lines 7 so as to avoid straight joints. At their inner ends the slabs meet on a middle line 8 at the middle of the road. These joints may be closed by tar or similar material poured into the same when the

slabs are laid. A gutter 9 may be formed at the outer edge of the slabs, to produce a continuous surface gutter.

In performing the present invention I lay a succession of elongated blocks 10, preferably cast of concrete, along the middle of line of the road, these blocks being sunk into the road bed 11 until their tops are flush therewith. The inner ends of the slabs 6 rest on these blocks, which thus support the same at the middle joint and prevent collapse of the crown of the road. The blocks are preferably made long enough to extend completely under one slab and half way under the next, as shown in Fig. 1, so that the joints between the blocks are bridged by the ends of the slabs and the dislocation of one block will not necessarily result in the disturbance of others.

The slabs are reinforced by rods set in the same; and at their meeting corners they are cut off as indicated at 11 so that loops of the reinforcing rods 12 are exposed at said corners, as shown at 13, and to tie the slabs and the blocks 10 together I set loops or eyes 14 in the blocks 10 in proper position to register with the openings formed by the cut-off corners 11 of the slabs. Then, when the slabs are set in place, I pass a wire or rod tie 15 through the loops 13 and through the eyes 14. Thereby tying all four slabs together and also tying the same to the blocks 10. After this is done grout or fluid cement is poured into the opening at the meeting corners thereby encasing the ties and closing the opening, the whole forming a very rigid and efficient bond which unites the parts.

The bottoms of the slabs 6 are also provided with parallel grooves 17 extending from the inner ends of the slabs to the outer ends, practically as described in my above entitled application. Furthermore, I provide a groove 18 which communicates with the grooves 17, and which extends along parallel to the outer edge of the slab. The grooves 18 of the respective slabs match with each other and form a channel under which I place a succession of flat concrete slabs or blocks 19, the whole forming a drain preferably located under the gutter 9, a few inches from the outer edge of the slab, and as stated, the cross grooves 17 open into this longitudinal drain 18. Water therefore seeping up through the bed 11 will enter the grooves 17 and flowing outwardly therefrom

will empty into the drain groove 18, by which it will be conducted a suitable distance, or to a low point in the roadway, where it may be discharged into a culvert beneath or laterally through a drain pipe into a gutter. The grooves 17 and 18 furthermore form an air space under the slabs 6, which will assist in drying out the bed and maintain a relatively dry body of air between the surfacing of the bed. The grooves referred to make unnecessary the construction and location of separate drains in the bed, and since all the blocks are provided with these grooves, a practically continuous drain will be produced under all portions of the road surfacing. The slabs will be symmetrically constructed so that the grooves on the slabs at one side of the road will register with the grooves in the slabs at the other side, thereby giving a practically continuous groove from side to side.

Furthermore, I may provide at each side of the middle line of the roadway a series of slabs 20 set in the road bed end to end, flush with the top of the bed, the ribs between the grooves resting upon these slabs, which provide an additional support for the slabs and prevent the ribs sinking into the road bed too far. The slabs 20 may conveniently be located along lines corresponding substantially with the lines of travel of the wheels of vehicles following the middle of the road.

The invention is not limited to the particular details of the structure shown and described. Certain features may be omitted within the scope of the following claims.

I claim:

1. A roadway consisting of slabs the inner ends of which meet at the middle of the road, a line of blocks set in the road bed under said middle line, and bonds between the blocks and the ends of the slabs, said bonds including ties connecting the blocks and the ends of the slabs.

2. A roadway consisting of slabs the inner ends of which meet at the middle of the road, a line of blocks set in the road bed under said middle line, and bonds between the blocks and the ends of the slabs, said slabs having reinforcing rods exposed at their meeting ends, and said blocks having eyes attached thereto, and ties connecting said eyes and rods.

3. A roadway consisting of concrete slabs

laid in rows side by side and meeting on a longitudinal line, the corners of said slabs being recessed and provided with reinforcement loops exposed at said recesses, a row of blocks laid under the meeting line of the slabs and provided with eyes, and ties connecting said loops and eyes, at the corners of the slabs.

4. A roadway comprising slabs laid side by side, each slab having a plurality of cross grooves in the bottom thereof and a longitudinal groove with which the cross grooves communicate, said longitudinal groove forming a drain extending lengthwise of the roadway under the slabs.

5. A roadway comprising slabs laid side by side, each slab having a plurality of cross grooves in the bottom thereof and a longitudinal groove with which the cross grooves communicate, said longitudinal groove forming a drain extending lengthwise of the roadway under the slabs, and a series of slabs laid in the road bed under the longitudinal grooves and forming the bottom of the drain.

6. A roadway comprising a succession of slabs, each slab having in the bottom thereof a plurality of transverse grooves extending from the inner edge of the slab toward the outer or gutter edge and a longitudinal groove extending in the bottom of the slab adjacent the gutter edge thereof, said longitudinal groove registering with the grooves of adjacent slabs and communicating with the transverse grooves and forming a drain extending lengthwise under the gutter edge of the slabs.

7. A roadway comprising a succession of slabs, each slab having in the bottom thereof a plurality of transverse grooves extending from the inner edge of the slab toward the outer or gutter edge and a longitudinal groove extending in the bottom of the slab adjacent the gutter edge thereof, said longitudinal groove registering with the grooves of adjacent slabs and communicating with the transverse grooves and forming a drain extending lengthwise under the gutter edge of the slabs, and a succession of flat slabs set in the road bed under said longitudinal grooves and forming the bottom of the drain.

In testimony whereof, I affix my signature.

ALFRED T. NEWELL.